

PHOTORESIST  
DISPENSING  
PUMPS

**PDS**



# A resist-saving photoresist dispensing pumps

Wasteful use of resist, variation of application amount, contamination, accumulation of bubbles, and so forth— these are problems experienced in the photoresist coating process.

Now, all of them can be solved by the PDS series.

Saving of resist will lead to remarkable cost reduction and improvement of production efficiency.

## Substantial Saving of Resist

The use of a high-torque stepper motor as the drive source results in a consistent discharge volume, unimpeded by filter clogging or viscosity change. A repeatable accuracy (0.3%) of discharge is maintained.

- Repeated precision:  $\pm 0.3\%$  (F.S.)
- Linearity:  $\pm 0.5\%$  (F.S.) Note: PDS-105R type
- Resolution: 0.01 ml or below

## Contamination-free

The pump portion is of tubephragm structure wetted internals are flat and smooth, with a small dead volume. Because the system hardly has a place that allows liquid resist to dwell, production of particles is prevented.

## Usable for a Variety of Coating Processes

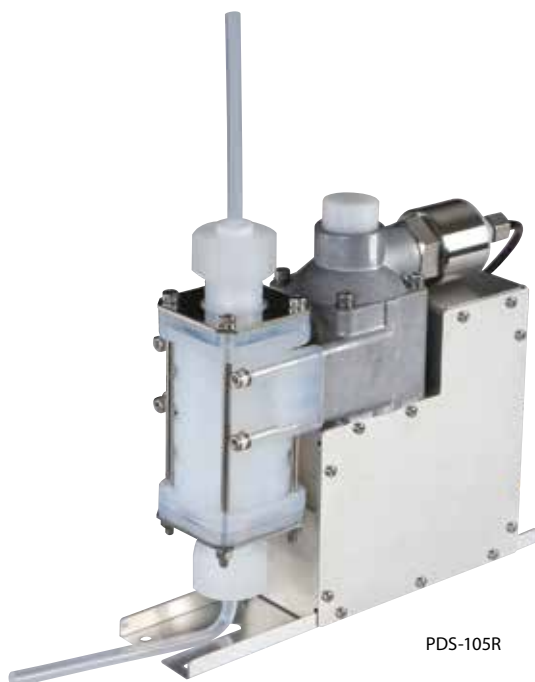
Since the discharge velocity can be changed freely in a shot, the system is capable of dealing with a variety of resist coating processes including application of a very small amount or in a very short period of time.

## Reduction of Downtime

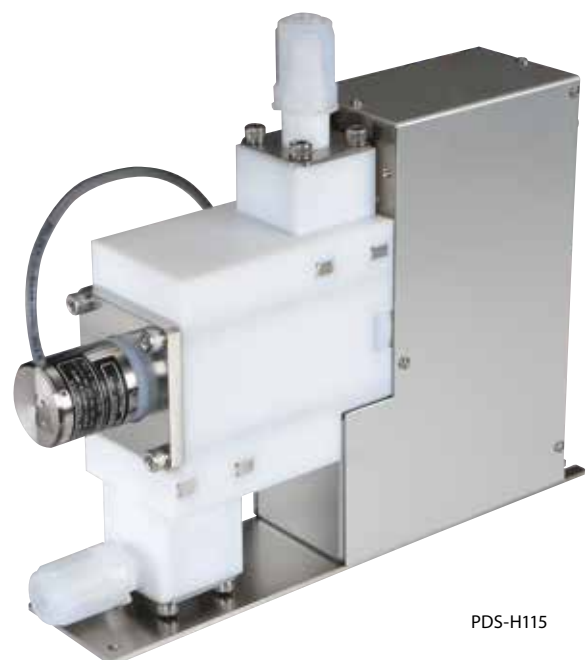
A discharge amount and a discharge time can be set only by entering values in the controller. It can save operator's time and labor and reduce downtime.

## Suitable for highly-viscous photoresist in LED and MEMS production (PDS-H115)

Rated for viscosities up to 10,000mPa·s used in manufacturing processes including LED and MEMS. And also for filling electrolysis solution.



PDS-105R



PDS-H115

## An Example of Cost Curtailment

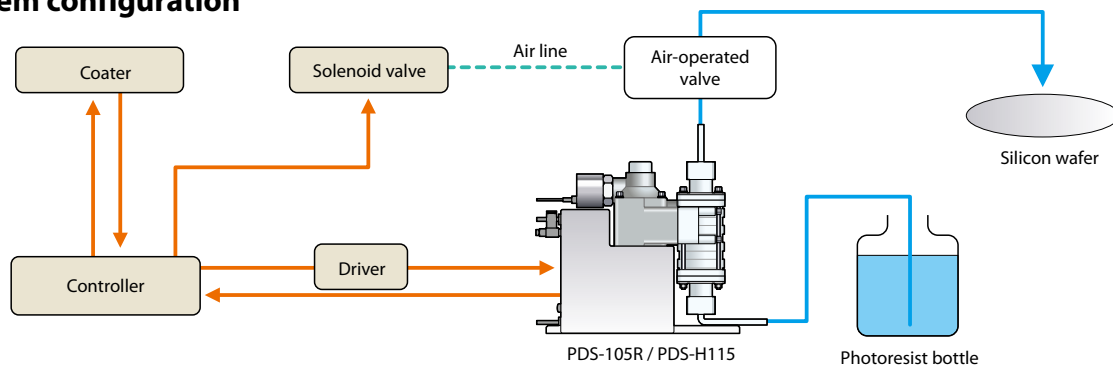
- Amount of saved resist: 1.5 ml/shot
- Number of resist applications: 20 times
- Number of produced wafers: 30,000/month
- Price of resist: \$500/gallon

In the above case, the amount of resist saved annually is:

$$1.5 \text{ (ml/shot)} \times 20 \text{ (times)} \times 30,000 \times 12 \text{ (months)} = 10,800 \text{ (liters)} = 2,851 \text{ (gallons)}$$

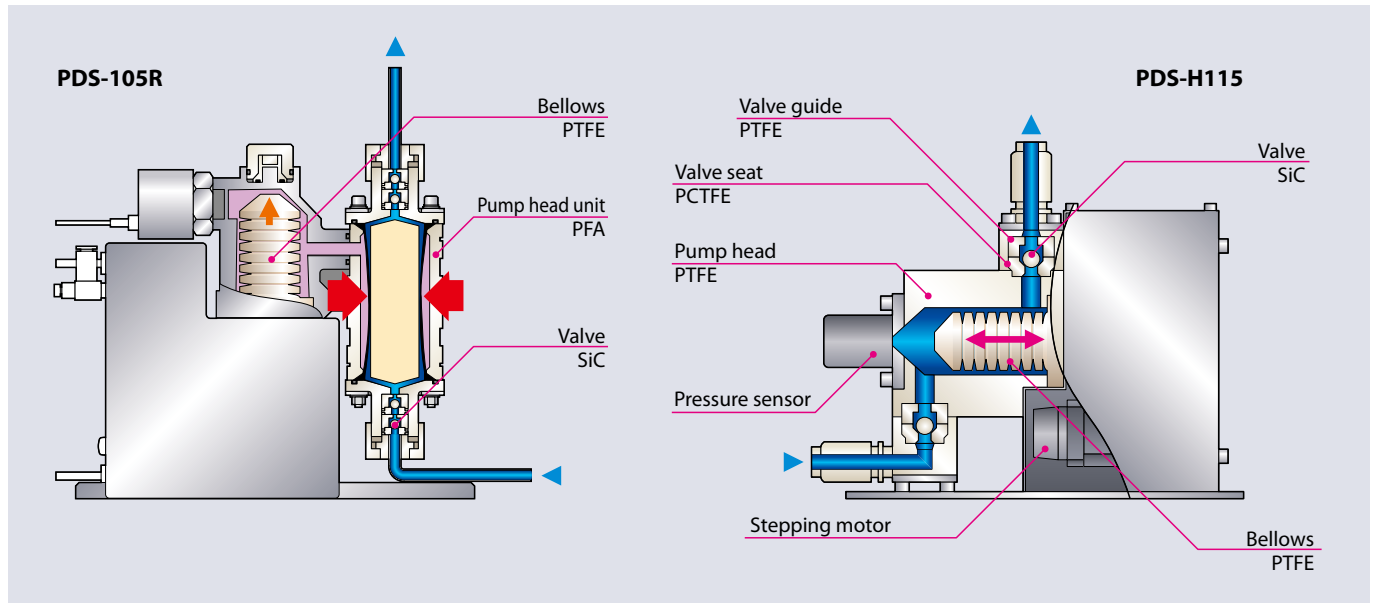
$$2,851 \text{ (gallons)} \times 500 \text{ (\$)} = \$1.4 \text{ million}$$

## System configuration



Note: Use an optional driver. Purchase separately. Contact our sales reps for applicable controller in advance. For the other peripheral devices, provide by yourself.

## Construction and materials



## Specifications

Model		PDS-105R	PDS-H115
Max. discharge capacity	mL/shot	5.0	12.0
Discharge speed	mL/sec	0.1 - 4.0	0.5 - 2.0
Suction speed	mL/sec	0.1 - 3.0	0.3 - 2.0
Max. discharge pressure	MPa	0.15	1.0
Repeatability		0.3% or below (F.S.)	
Max. allowable viscosity	mPa·s	200	10,000


Above specification may be changed by installation, handling liquid, etc.  
For detail, please contact us.

**IWAKI CO., LTD.** 6-6 Kanda-Sudacho 2-chome Chiyoda-ku Tokyo 101-8558 Japan TEL : (81)3 3254 2935 FAX : 3 3252 8892

IWAKI has global net work.  
Please find your distributor location at

[www.iwakupumps.jp](http://www.iwakupumps.jp)

European office : <b>IWAKI Europe GmbH</b>	TEL: (49)2154 9254 0	FAX: 2154 9254 48	U.S.A. : <b>IWAKI America Inc.</b>	TEL: (1)508 429 1440	FAX: 508 429 1386
Germany : <b>IWAKI Europe GmbH</b>	TEL: (49)2154 9254 50	FAX: 2154 9254 55	Argentina : <b>IWAKI America Inc. (Argentina Branch)</b>	TEL: (54)11 4745 4116	
Holland : <b>IWAKI Europe GmbH (Netherlands Branch)</b>	TEL: (31)74 2420011	FAX: (49)2154 925448	Singapore : <b>IWAKI Singapore Pte Ltd.</b>	TEL: (65)6316 2028	FAX: 6316 3221
Italy : <b>IWAKI Europe GmbH (Italy Branch)</b>	TEL: (39)0444 371115	FAX: 0444 335350	Indonesia : <b>IWAKI Singapore (Indonesia Office)</b>	TEL: (62)21 6906606	FAX: 21 6906612
Spain : <b>IWAKI Europe GmbH (Spain Branch)</b>	TEL: (34)93 37 70 198	FAX: 93 47 40 991	Malaysia : <b>IWAKIm Sdn. Bhd.</b>	TEL: (60)3 7803 8807	FAX: 3 7803 4800
Belgium : <b>IWAKI Belgium N.V.</b>	TEL: (32)13 67 02 00	FAX: 13 67 20 30	Australia : <b>IWAKI Pumps Australia Pty Ltd.</b>	TEL: (61)2 9899 2411	FAX: 2 9899 2421
Denmark : <b>IWAKI Nordic A/S</b>	TEL: (45)48 24 2345	FAX: 48 24 2346	Hong Kong : <b>IWAKI Pumps Co., Ltd.</b>	TEL: (852)2607 1168	FAX: 2607 1000
Finland : <b>IWAKI Suomi Oy</b>	TEL: (358)9 2745810	FAX: 9 2742715	China : <b>GFTZ IWAKI Engineering &amp; Trading Co., Ltd.</b>	TEL: (86)20 84350603	FAX: 20 84359181
France : <b>IWAKI France S.A.</b>	TEL: (33)1 69 63 33 70	FAX: 1 64 49 92 73	Korea : <b>IWAKI Pumps (Shanghai) Co., Ltd.</b>	TEL: (86)21 6272 7502	FAX: 21 6272 6929
Norway : <b>IWAKI Norge AS</b>	TEL: (47)23 38 49 00	FAX: 23 38 49 01	Taiwan : <b>IWAKI Korea Co., Ltd.</b>	TEL: (82)2 2630 4800	FAX: 2 2630 4801
Sweden : <b>IWAKI Sverige AB</b>	TEL: (46)8 511 72900	FAX: 8 511 72922	Thailand : <b>IWAKI Pumps Taiwan Co., Ltd.</b>	TEL: (886)2 8227 6900	FAX: 2 8227 6818
U.K. : <b>IWAKI Pumps (UK) Ltd.</b>	TEL: (44)1743 231363	FAX: 1743 366507	Vietnam : <b>IWAKI (Thailand) Co., Ltd.</b>	TEL: (66)2 322 2471	FAX: 2 322 2477
		( ) Country codes	Vietnam : <b>IWAKI Pumps Vietnam Co., Ltd.</b>	TEL: (84)613 933456	FAX: 613 933399

 **Caution for safety use:**  
Before use of pump, read instruction manual carefully to use the product correctly.

Actual pumps may differ from the photos.  
Specifications and dimensions are subject to change without prior notice. For further details please contact us.

 **Legal attention related to export.**

Our products and/or parts of products fall in the category of goods contained in control list of international regime for export control. Please be reminded that export license could be required when products are exported due to export control regulations of countries.

The posting and copying from this catalogue without permission is not accepted firmly.